REMARKS

In the Office Action, the Examiner noted that claims 1-48 are pending in the application, and that claims 1-48 are rejected. By this response, claims 1 and 31 are amended and claims 2-30 and 32-48 continue un-amended. In view of the above amendments and the following discussion, Applicants submit that none of the claims now pending in the application are anticipated under the provisions of 35 U.S.C. §102, obvious under the provisions of 35 U.S.C. § 103, or indefinite under the provisions of 35 U.S.C. §112. Thus, Applicants believe that all of these claims are now in condition for allowance.

I. REJECTION OF CLAIMS UNDER 35 U.S.C. §102(b)

The Examiner rejected claims 1-25 and 31-47 as being anticipated by Russell ("Control Segment and User Performance", Global Positioning Systems Papers published in 'Navigation', Vol. 1, Institute of Navigation, 1980, pp. 74-80). The rejection is respectfully traversed.

More specifically, the Examiner alleged that Russell teaches an upload station for receiving satellite navigation messages from a Master Control Station and transmitting the satellite navigation messages via an uplink to GPS satellites. (Office Action, ¶3). The Examiner further alleged that Russell teaches an upload of data valid for both 6 hours and 26 hours, and that the satellite navigation messages include almanac, ephemeris, and clock corrections. (Office Action, ¶3). The Examiner concluded that Russell anticipates Applicants invention as recited in claims 1-25 and 31-47. Applicants respectfully disagree.

Russell generally describes the validation phase of the Navstar GPS program, including the testing of the Control Segment. (See Russell, Abstract). In particular, Russell teaches uploading navigation messages to satellites using a Master Control Stations and an upload station. Russell teaches an upload of satellite ephemeris and clock parameters valid for only 6 hours, and an upload of satellite ephemeris, satellite clock, and satellite almanac data valid for 26 hours. (See Russell, page 77).

Russell, however, does not teach or suggest each and every element of Applicants' amended claim 1. Namely, Russell does not teach or suggest receiving satellite tracking data from a satellite control station and transmitting formatted satellite tracking data to a remote receiver using a terrestrial communication link. Specifically, Applicants amended claim 1 positively recites:

> "A method for distributing satellite tracking data to a remote receiver comprising:
> receiving satellite tracking data from a satellite control station;
> representing at least a portion of said satellite tracking data as formatted data having a format supported by the remote receiver, said at least a portion of said satellite tracking data being valid for at least four hours; and
> transmitting the formatted data to the remote receiver using a terrestrial communication link." (Emphasis added).

Applicants have amended claim 1 to clarify features of the invention Applicants consider inventive. Namely, satellite tracking data is received from a satellite control station, formatted, and transmitted to a remote receiver using a terrestrial communication link. (See Applicants' specification, ¶23). Nothing about Terrestrial

Russell, however, does not teach or suggest receiving satellite tracking data from a satellite control station and transmitting formatted satellite tracking data to a remote receiver using a terrestrial communication link. Rather, Russell teaches uploading navigation data to satellites and re-broadcasting the navigation data using the satellites. Receiving the broadcast navigation data from the satellites may be difficult in low signal strength environments. By transmitting formatted satellite tracking data using a terrestrial communication link, Applicants' invention obviates the need to receive satellite navigation data from the broadcast satellite signals. Re-broadcasting navigation data using the satellites does not teach or suggest transmitting formatted satellite tracking data to a remote receiver using a terrestrial communication link.

"Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim." Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co., 221 USPQ 481, 485 (Fed. Cir. 1984) (emphasis added). Since Russell does not teach receiving satellite tracking data from a satellite control station and transmitting formatted satellite tracking data to a remote r ceiver using a terrestrial communication link, Russell does not teach each and

every element of Applicants' claim 1. Therefore, Applicants contend that the invention recited in claim 1 is not anticipated by Russell and, as such, fully satisfies the requirements of 35 U.S.C. §102.

Moreover, claim 31 recites an apparatus for distributing satellite tracking data having relevant features similar to those recited in claim 1. For the same reasons discussed above, Applicants contend that the invention recited in claim 31 is also not anticipated by Russell and, as such, fully satisfies the requirements of 35 U.S.C. §102. Finally, claims 2-15, 18-25, 32-40, and 42-47 depend, either directly or indirectly, from claims 1 and 31 and recite additional features therefor. Since Russell does not anticipate Applicants' invention as recited in claims 1 and 31, dependent claims 2-15, 18-25, 32-40, and 42-47 are also not anticipated and are allowable.

II. REJECTION OF CLAIMS UNDER 35 U.S.C. §103(a)

A. Claims 1-25 and 31-47

The Examiner rejected claims 1-25 and 31-47 as being unpatentable over King (United States patent 6,211,819, issued April 3, 2001) in view of Taylor (United States patent 4,445,118, issued April 24, 1984). The rejection is respectfully traversed.

More specifically, the Examiner conceded that King does not disclose receiving ephemeris/clock data from a satellite control station. (Office Action, ¶8). The Examiner alleged, however, that Taylor teaches receiving satellite ephemeris/clock data from a Master Control Station at a control station. (Office Action, ¶8). The Examiner concluded that it would have been obvious to modify King such that ephemeris/clock data is received from a Master Control Station as taught by Taylor. Applicants respectfully disagree.

King generally teaches receiving satellite ephemeris and clock correction data at a base station, producing satellite position information from the ephemeris and clock correction data, and transmitting the satellite position information to a mobile device. (See King, Abstract). In one embodiment, King teaches receiving ephemeris and clock information "directly from the satellites themselves" using a GPS receiver at the base station. (King, col. 4, lines 18-21). In another embodiment, King teaches receiving th

ephemeris and clock correction data from the satellites at a mobile switching center and communicating the ephemeris and clock correction data to the base station. (King, col. 4, lines 21-25). In either embodiment, King does not disclose receiving the ephemeris and clock correction data from anywhere else but the satellites themselves.

Taylor teaches an aided GPS system, where user terminals receive an aiding signal in addition to the standard pseudo-random noise (PRN) signals transmitted by GPS satellites. (See Taylor, col. 5, lines 1-14). In particular, a remote control station receives almanac data from a master control station or from the satellites themselves. (Taylor, col. 5, line 58 through col. 6, line 18). The remote control station extracts satellite coordinate data from the almanac data in the form of instantaneous X, Y, and Z spatial coordinates, and transmits the satellite coordinate data to a geostationary satellite. (Taylor, col. 6, lines 46-48 and col. 6, lines 57-68). The geostationary satellite broadcasts the satellite position information to the user terminals. (Taylor, Figure 1).

The alleged combination, either singly or in any permissible combination, fails to teach, suggest, or otherwise render obvious Applicants invention as recited in claim 1. Namely, the alleged combination does not teach or suggest receiving satellite tracking data from a satellite control station and transmitting formatted satellite tracking data that is valid for a period of at least four hours to a remote receiver using a terrestrial communication link. First, King is completely devoid of any teaching or suggestion of receiving satellite tracking data from a satellite control station. Rather, King receives ephemeris and clock data from the satellites themselves (i.e., broadcast ephemeris), whether that data is received at a base station or at a mobile switching center. In addition, receiving ephemeris and clock data from a mobile switching center does not reasonably teach or suggest receiving satellite tracking data from a satellite control station. The mobile switching center of King controls mobile terminals, such as cellular telephones (King, col. 3, lines 41-60), whereas a satellite control station controls data distribution to satellites orbiting the earth (Applicants' specification, ¶21).

Second, while Taylor teaches receiving satellite data from a Master Control Station, Taylor does not teach or suggest transmitting formatt d satellite tracking data that is valid for at least four hours to a remote receiver using a terrestrial communication

link. Rather, Taylor uses a geostationary satellite to broadcast instantaneous satellite coordinates to a user terminal. Using a geostationary satellite to broadcast instantaneous satellite coordinates fails to teach or suggest transmitting formatted satellite tracking data that is valid for at least four hours to a remote receiver using a terrestrial communication link. Since neither King nor Taylor individually teaches or suggests receiving satellite tracking data from a satellite control station and transmitting formatted satellite tracking data that is valid for a period of at least four hours to a remote receiver using a terrestrial communication link, no conceivable combination of King and Taylor teaches or suggests Applicants' invention recited in claim 1.

Furthermore, there is no suggestion or motivation to combine King and Taylor to arrive at Applicants' invention. First, Taylor clearly teaches away from transmitting formatted satellite tracking data that is valid for at least four hours using a terrestrial communication link, since Taylor is concerned with the production of instantaneous spatial coordinates from the satellite data and uses a geostationary satellite to broadcast the instantaneous coordinates. Taylor is not concerned with the generation of longer term satellite tracking data and its distribution to mobile receivers. Second, King clearly teaches away from receiving satellite data from a satellite control station, since King explicitly teaches receiving ephemeris and clock data from the satellites themselves. King teaches no other source for ephemeris and clock data other than the satellites themselves. Thus, each of King and Taylor teaches away from any combination with the other.

Therefore, Applicants contend that the invention of claim 1 is nonobvious in view of King and Taylor and, as such, fully satisfies the requirements of 35 U.S.C. §103. Moreover, claim 31 recites an apparatus for distributing satellite tracking data having relevant features similar to those recited in claim 1. For the same reasons discussed above, Applicants contend that the invention recited in claim 31 is also nonobvious in view of King and Taylor and, as such, fully satisfies the requirements of 35 U.S.C. §103. Finally, claims 2-15, 18-25, 32-40, and 42-47 depend, either directly or indirectly, from claims 1 and 31 and recite additional features therefor. Since the alleged combination of King and T ylor does not rend r obvious Applicants' invention as r cited in claims 1

and 31, dependent claims 2-15, 18-25, 32-40, and 42-47 are also nonobvious and are allowable.

B. Claims 26-28 and 48

The Examiner rejected claims 26-28 and 48 as being unpatentable over Taylor and King in view of Moore ("Satellite Navigation Information Services," IEEE Colloquium on Implemenation of GNSS, published 1995). The rejection is respectfully traversed.

More specifically, the Examiner conceded that Taylor and King do not disclose the use of the Internet as a communication link between the base station and the remote receivers. (Office Action, ¶13). The Examiner alleged, however, that Moore teaches accessing satellite navigation data via a web page. (Office Action, ¶13). The Examiner concluded that it would have been obvious to provide the satellite navigation data of Taylor and King using a web server as taught by Moore. (Office Action, ¶13). Applicants respectfully disagree.

Moore generally discusses the available sources of information on satellite navigation systems. (See Moore, Abstract, page 6/1). The information, such as status messages, almanac data, or ephemeris data, is provided via a server connected to the Internet. (Moore, page 6/2).

Claims 26-28 and 48 depend, either directly or indirectly, from claims 1 and 31. The cited references, either singly or in any permissible combination, do not teach, suggest, or otherwise render obvious Applicants' invention as recited in claims 1 and 31. Namely, the alleged combination fails to teach or suggest receiving satellite tracking data from a satellite control station and transmitting formatted satellite tracking data that is valid for a period of at least four hours to a remote receiver using a terrestrial communication link. As discussed above in Section II.A, the alleged combination of King and Taylor does not teach or suggest Applicants' invention of claims 1 and 31. Moore is devoid of any teaching or suggestion of receiving satellite tracking data from a satellite control station. Rather, Moore is concerned with downloading information from the Internet. Thus, no conceivable combination of King, Taylor, and Moor teaches or suggests Applicants' Inv ntion recited in claims 1 and 31.

Therefore, Applicants contend that claims 26-28 and 48, which depend from claims 1 and 31, are patentable over Taylor, King, and Moore and, as such, fully satisfy the requirements of 35 U.S.C. §103.

III. REJECTION OF CLAIMS UNDER 35 U.S.C. §112

The Examiner rejected claims 16-17 and 41 as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as their invention. The Examiner, however, did not provide a supporting rational for the rejection. Upon review of the features recited in claims 16-17 and 41, Applicants respectfully submit that claims 16-17 and 41 are definite and, as such, fully satisfy the requirements of 35 U.S.C. §112.

CONCLUSION

Thus, Applicants submit that none of the claims presently in the application are anticipated under the provisions of 35 U.S.C. § 102, obvious under the provisions of 35 U.S.C. § 103, or indefinite under the provisions of 35 U.S.C. §112. Consequently, Applicants believe that all these claims are presently in condition for allowance. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Mr. Raymond R Moser Jr., Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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RESPONSE
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